

CHARACTERIZATION OF RURAL LIVELIHOOD OF LAKE CHAD BASIN FISHERMEN

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ABSTRACT

The study examined the characterization of rural livelihood of the fishermen in the Nigeria portion of Lake Chad Basin area as part of European Commission (EC) founded project entitled "Sustainable development of continental fisheries: a regional study of policy options and policy formation mechanisms for the Lake Chad Basin". Wealth ranking exercise which was not based on real income but on production capacity of the fishermen was carried out in twenty (20) villages surveyed on the western part of the region using Rapid Rural Appraisal Technique with semi-structured interviews. The different activities carried out by the villagers for living were identified according to their socio-economic status. This was followed by an assessment of the socio-economic characterization within each wealth group. Series of comparative analysis of the ethnic composition, accessibility of fishing gear ownership by the population were done. The results show that the 3 wealth groups in the region include the rich (Group 1) the middle class (Group 2) and the poor (Group 3). It was identified that fishing is just one component of the socio-economic production system along side farming, livestock rearing and trading which are closely integrated. The diversified livelihood system being practiced in the Chad Basin region are not only less vulnerable but also more sustainable.

INTRODUCTION

Over the past three decades most rural development projects and programmes as well as poverty reduction policies implemented in the Third World have not been successful (Whiteside, 1998). This has been attributed to the approach adopted. In fact, poverty within the fishing communities, for instance, has generally been addressed only from the technical angle by introduction of modern fishing materials, equipment and infrastructure. Learning a lesson from these experiences, and considering the fact that rural masses usually engage in multiple production system, including both fisheries and agro-pastoral activities on the other hand, a thorough understanding of the characteristics of rural livelihood of the target populations within the Basin is indispensable.

In Sahelain and Sub-Sahara Africa, it is important to recognize the heterogeneity of rural communities and the diversity of their livelihood strategies. Even small local communities are made up of diverse socio-economic strata characterized by different livelihood strategies and economic activities (Ashley and Carney 1999). Depending on where they stand within these socio-economic strata, households and individuals have highly differentiated access to resources and opportunities, much of which is linked to ethnicity, gender and ownership of assets, (Tonlmin et al 2000). Consequently, while the poorest households will depend heavily upon a given combination of crops and/or natural resources (usually common pool resources) for their food security and income generation, the better-off, because they face different socio-economic and institutional constraints and opportunities, will develop different activity. In this context, understanding the exact contribution each rural activity to the local and households economy and

identifying their respective potential effects on local populations, poverty level and wealth differentiation appears as one key element for the design of appropriate rural development policies.

In 1999, the European commission funded a research project "*Sustainable development of continental fisheries*" a regional study of policy and policy formation mechanisms for the Lake Chad Basin. The main objective of this project, which was based on the collaboration of national (Nigeria, Cameroonian, Chadian) and International (French and British) experts, was carried out a multi-disciplinary research programme to address some of the major fisheries planning and policy constraints faced by these countries. As part of this project, a livelihood analysis of the target population within the Basin is indispensable. This paper is an excerpt from the main report of the research project on the Nigerian sector of the Chad Basin.

Some of the key interrogations that were underlying this study are: Do the fishermen constitute a homogenous community, or do they belong to various ethnic groups with different socio-economic characteristics? What are their livelihoods? Are they all full-time fishers or are they also involved in other rural activities? If so, what is the respective contribution of each activity to the community livelihood strategies? The main objective of this study was to expand the existing knowledge on the contribution of fishing activities to the livelihoods of the rural communities in the Nigerian sector (Western shores) of the Chad Basin region.

METHODOLOGY

The participatory Rapid Rural Appraisal (RRA) technique with semi-structured interviews were used to collect information from thirty (30) key village informants, (focus group) including the village Heads (Bulama) or Ward head (Lawan) and other members of the village council. The 20 villages surveyed are located in the zones of fishing activities within the Lake Chad Basin along the western shores of the Lake Chad area. (Fig. 1).

The major element of the survey was an activity ranking exercise combined with a participatory wealth ranking exercise. The respondent groups identified wealth level and associated stratifying criteria in each village. The two distinct criteria used for the activity ranking were: the allocation of households' labour (time effort) over the whole season in each activity and the contribution of each activity to the households' overall incomes.

The activity ranking exercise was complemented by a series of investigations on fishing ground accessibility, ethnic composition and level of food insecurity within each wealth group. The food security assessment was carried out in order to evaluate and compare the degree of vulnerability/poverty of the different wealth groups within the villages. The following criteria were used to evaluate the degree of food insecurity: The auto-consumption rate (Proportion of food auto-produced/harvested which is consumed), the food purchasing capacity and the food self-sufficient rate (capacity of households to supply themselves with sufficient food to avoid any period of food shortage over the whole season).

Additional information regarding the villages and their vicinities was collected through participatory mapping exercises (distant chart) of selected landmarks including seasonal and permanent ponds, rivers and their tributaries, irrigation channels, grazing and agricultural areas and seasonal calendars of the rain and river-flood cycles and associated activities performed by the villagers. This set of additional data was used to complete and crosscheck the information obtained during the group interviews. To further reduce the possibility of bias and/or misinterpretation during the data collection, the interviews were conducted by teams of local enumerators that speak the local language and are familiar with the local area under supervision of researchers. All the interviews were preceded by an introductory visit to each village.

RESULTS

Households

Table 1 shows the 2930 household were found in the 20 villages studied with an estimated population of 23440 and an average household size of 8 persons, comprising 2 adults (husband and wife) and 6 children. These households mainly engage in fishing, farming, livestock and/or trading for living.

Wealth Ranking/Stratification

The results of the participatory wealth assessment are presented in table 2: all the people

are not equally rich in any village. They can be divided into three wealth groups. The rich (group 1), the middle-class (group 2), and poor (group 3). This distinction is based on such production system-related factors as livestock size, number and size of farmlands and fishing gears (type, number and size). Out of the total population of 23440, 17% belong to the first group. The second group was made up of (32%) while the third group consists of 51%. This shows that half of the population represents the poorest group.

It was gathered that any group can indeed move up or down from one group to another depending on the risk inherent in the production system activities (Poor or good harvest, theft, flood or fire). Labour time and effort spent on the farm or fishing activity, as well as the type and size of production, availability of resources and inputs, entrepreneurial skills to run the farm or fishing unit and availability of credit facilities.

Activities ranking and income

Table 3 shows the results of the livelihood analysis based on activity ranking. In general, in terms of labour allocation, the Group 1 households are characterized by the following livelihood strategy: fishing > farming > trading > herding. This result indicates that the better-off households within the basin always invest the largest part of their labour (time-effort) in fishing related activities, followed by farming, and then at a more or less equal degrees, trading and herding. Fishing also played a major role in Group 2 households since it ranks first in terms of income contribution for the population in the region.

Similarly, the sources of income vary slightly from one group to another. In particular, in both group 1 and group 2 the households invest part of their income from the sale of their catch. They are both also highly involved in farming which is their second major activity. The distinction between Group 1 and Group 2 mainly related to the relative contribution of trading activities to their income. Group 1 household derive a substantially higher proportion of revenue from trade than Group 2 households. In contrast, Group 3 households are not involved in trading at all. They are employed mainly in wage labour through small daily jobs, like farm clearing/weeding, fish processing, fish packaging, loading and fishing for those that own fishing gears.

Vulnerability of food insecurity

The results of the food insecurity assessment, which are presented in Fig. 2 shows that households are not equally endowed with respect to food security. The proportion of villages in which the households can afford foodstuff (food purchasing capacity) in addition to the food they produced decreases from group 1 to group 3. 100% of group 1 households have sufficient food over the whole year in all the villages within the Basin. The rate of self-sufficient in food falls to 33% for group 2 households. There is no village where group 3 households were said to be able to ensure a year-round food sufficiency. The poorest households (group 3) consume a lower proportion of their fish catch because they prefer to sell for income generation. The consumption of farm product in group 1 and group 2 is 56% and 50% respectively while that of group 3 is 86%.

Ethnic composition of wealth groups

Table 4 shows that ethnic composition of the wealth groups. Group 1 and Group 2 were made up of the three major ethnic groups (Hausa, Fulani and Kanuri). In contrast, two groups of foreigners made up the poorest section of the population in relatively small proportion. There is no relationship between the socio-economic status of the fisher and their length of stay in any village. In certain villages like Dumba and Doro, the richest fishers are the residents while the two groups are migrants. Within the same wealth group and both categories co-exist.

Ownership of fishing gears

The result of the fishing gear survey showed that the gears own by fisher in the Chad Basin region include: Gillnet, seine nets, Malian trap (Goura) Hook and line, cane trap (Ndurutu). Though, the richer households own a larger number of units of each gear compared to the poorer households. In most cases, a good number of the poorest households in the study area own no fishing gear at all. They sometimes fish for other fishermen on commission basis.

Seasonal calendars of production system activities

Along the western shores of the Lake the predominant livelihood activities are largely

determined by climate and hydrological pattern as presented in Fig. 3. Indeed, no exclusive groups of producers (fishers, farmers, herders and traders) are readily identifiable. The households engage in one activity or another accordingly at certain periods of the year. Although fishing is done all year round in open Lake but the peak period is in December as the Lake Chad water rises till January. Fishing from seasonal ponds takes place between April-July. Farming is carried out almost throughout the year as the communities practice both recession and rainy season farming. Usually, the first planting of maize, millet and beans starts in June to July and August with harvest three months later in October to November at the beginning of dry season. Animal herding, mainly for small ruminants and cow is traditionally practiced by the population of the region. Free grazing is restricted to all animals except at the end of harvest October to November and before the start of recession planting in January and February.

DISCUSSION

The result of household size of 8 persons comprising 2 adults (husband and wife) and 6 children obtained in this study agrees with the 10 persons comprising 3 adults (husband and wives) and seven children arrives at by Njock and Mindjinba (2000) in their livelihood study of population located along the Maga reservoir, the logone River and the Yaere flood plain.

It was also shown from the survey that the population along Western shores of Lake Chad engages in multiple activities including fishing, farming, livestock and trading. Despite their dominant role, fishing and farming on their own are unable to support the population in the area. This is the case of smallholder agriculture in general (Whiteside, 1998). Ownership of Livestock in the study area is more of a prestige than economic activity (Ellis, 1998). They are kept in form of capital and savings for the future. They can be sold for cash to solve emergency problems. This was also observed by Brock and Caulibaly (1999) in their study of sustainable rural livelihoods in Mali. The result of wealth ranking exercise shows that activities among the population in Group 3 are more diversified, while Group 2 and 3 engage in fewer activities (Less diversified). This was the conclusion of Ellis (1999) in Sub-Sahara Africa as a whole that: the more diversified the income generating activities, the better off is the rural household. Furthermore, the proportion of fish caught and farm product sold or self-consumed reflects the socio-economic status of the household. Ethnic diversity among the population of the Western shores of Lake Chad does not appear to be a distinguishing factor of different wealth groups. Different ethnic groups were found in the 3 wealth groups. The high co-operation observed among ethnic groups is thought to contribute to this apparent lack of clear ethnic-related discrimination. The surveyed population employs a wide range of fishing gears. As noted, the wealthy fishermen use larger and most expensive gears such as seine nets and gill nets for fishing. In general, the different occupations pursued in the region are attuned to the climate of the region and hydrological pattern of Lake Chad.

CONCLUSION

The studied population on the western shores of Lake Chad engages not only in fishing, but also in other activities, the most important of which include farming, livestock rearing and trading. Among these occupations, the latter seems to have a greater wealth potential, while livestock is an occasional income-generating activity. Thus a rural livelihood is not based on fisheries activities alone. Diversified livelihood systems being practiced in the region are not only less vulnerable than non-diversified ones but also more sustainable.

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Table 1: Demographic details of surveyed villages at the western shores of Lake Chad

PARAMETERS	CHARACTERISTICS
Number of villages surveyed	20
Estimated household number	2930
Estimated population	23440
Average village size (heads/village)	1172
Average house hold size (Adults/children)	3(2/6)

Table 2: Socio-economic status of the fishermen at the western shores of Lake Chad

Wealth level group	Number of households	Total population	Percentage of total population
Group 1	498	3984	17.0
Group 2	938	7504	32.0
Group 3	1494	11952	51.0
Total	2930	23440	100.0

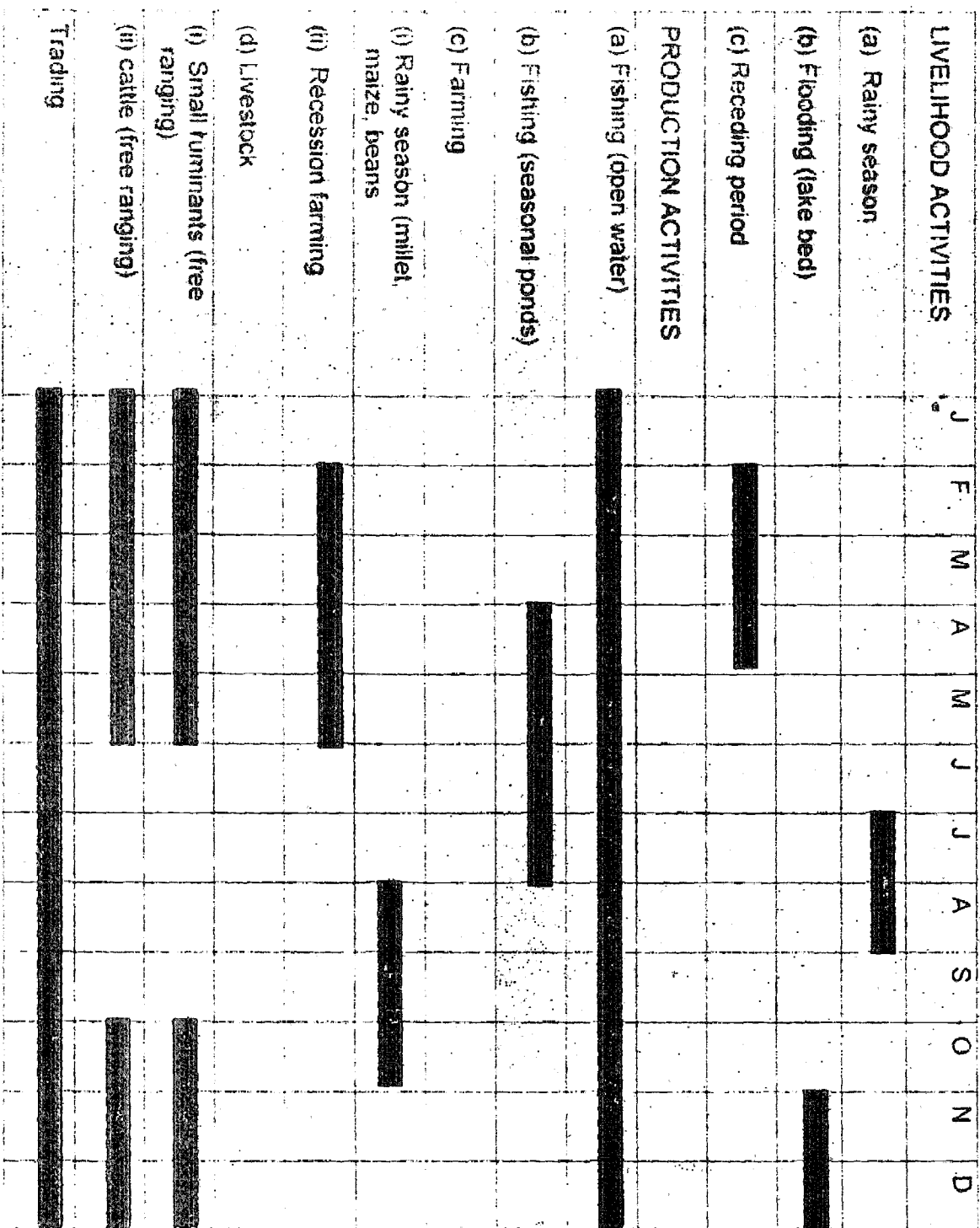
Table 3: Contribution of activities to income of different group in Chad Basin region

Wealth level group	Labour allocation	Contribution to income
Group 1	Fish > Farm > Trade = Herd	Fish > Farm > Trade (Herd = 0)
Group 2	Fish > Farm > Trade = Herd	Fish > Farm > Trade (Herd = 0)
Group 3	Labour >> Fish > Fish	Labour >> Fish = Farm

>> Ranks Much higher than
 > Ranks higher than
 = Similar to

Table 4: Ethnic composition of different group in Chad Basin region

	Group 1%	Group 2%	Group 3%
Kanuri	34	32	10
Hausa	37	39	33
Fulani	23	21	6
Shuwa	3	5	10
Maliens	-	-	19
Michika	3	3	-
Chadians	-	-	16

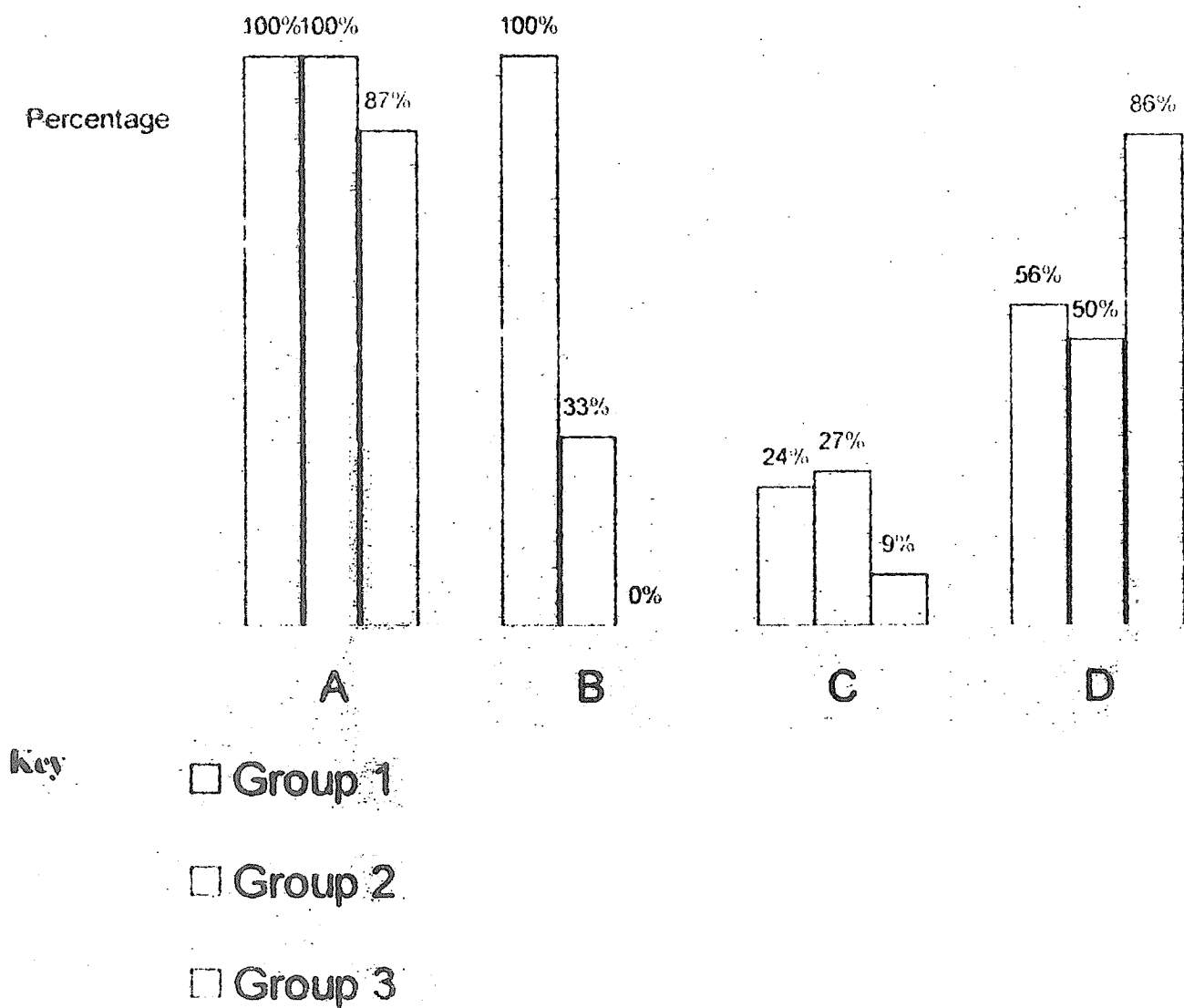


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A - Food Purchasing Capacity
 B - Food Self-Sufficiency
 C - Fish Consumed
 D - Farm Product Consumption

Fig. 2. Relationship between food security and wealth for different groups in Chad Basin